

WOLVERINE



Army ACAT II Program

Total Number of Systems:	465
Total Program Cost (TY\$):	\$2,640M
Average Unit Cost (TY\$):	\$5.7M
Full-rate production:	4QFY00

Prime Contractor

General Dynamics Land Systems

SYSTEM DESCRIPTION & CONTRIBUTION TO JOINT VISION 2020

The Wolverine provides assault bridging support for forward, heavy-maneuver forces, thereby utilizing the *Army's Vision 2020* concept of *decisive operations*. The Wolverine launcher is mounted on an M1A2 Abrams System Enhancement Program chassis and should be able to be operated by a two-man crew. The bridge is 26 meters long and can span gaps up to 24 meters. It will support a Military Load Class 70 vehicle (e.g., a fully loaded, 70 ton M1A2 tank) crossing at 16 kilometers per hour. The Wolverine crew launches the bridge from under armor in five minutes and can retrieve the bridge in less than ten minutes.

The Wolverine will increase maneuver force mobility by allowing units to transit such gaps as tank ditches, road craters, and partially damaged bridge sections. The current Armored Vehicle Launched Bridge (AVLB) only supports Abrams tank units crossing at reduced gap length (15 meters) and reduced crossing speed. The Wolverine was to replace the AVLB in selected engineer companies of mechanized battalions, armored cavalry regiments, and heavy brigades.

BACKGROUND INFORMATION

The Army's Acquisition Executive notified OSD that the Army designated the Wolverine program an ACAT II program and a covered system for LFT&E in a memorandum dated June 4, 1996. The June 1992 Milestone II decision pre-dated the designation of Wolverine as an ACAT II program. Wolverine was added to the FY97 Annual T&E Oversight List for LFT&E only.

DOT&E has participated in the Wolverine LFT&E Integrated Process Team since May 1996, and approved the completed strategy in March 1997. Dedicated LFT&E events began in 4QFY97 and continued through November 1999.

TEST & EVALUATION ACTIVITY

The approved Live Fire vulnerability testing strategy included three phases of testing: (1) ballistic testing against a deployed bridge; (2) full-up, system-level testing of a production representative bridge and an up-armored prototype launch mechanism mounted on an M1A1 chassis containing non-production-like Wolverine components; and (3) full-up, system-level testing of a production system. Phase I testing was successfully conducted during FY97, and Phase II testing was completed in FY98.

Fiscal Year 1999 and initial FY00 activities focused on planning for the Phase III test of a production-representative Wolverine began in 1QFY00. The Phase III test was to include both a controlled damage test and a five shot full-up, system-level ballistic vulnerability test. Planned ballistic threats to be fired included direct-fire HE, artillery, and hand-held infantry weapons. DOT&E approved the Phase III evaluation plan, participated in the shot-selection process, and approved the test plan prior to test execution.

In December 1999, the Wolverine program was included among several Army programs designated for termination due to changing priorities and a need to fund the Army's transformation. Following the termination decision, LFT&E activities were halted after having completed only two (and least damaging) of the five planned full-up, system-level live fire tests at the Army's Aberdeen Test Center. The production-representative live fire test vehicle was repaired by January 2000, but later was damaged beyond repair during user tests at Ft. Hood, TX. No overall system vulnerability evaluation has been reported.

Although the Army did not fund the Wolverine in its program objective memorandum for FY02-FY07, the Army described the Wolverine as its top unfunded requirement. The Fiscal Year 2001 Defense Appropriations bill conference report directed the Army to obligate FY00 Wolverine procurement funds, and the Army awarded a \$34.4 million contract for the production of ten Wolverine systems. It seems likely that the Army will obligate the \$77 million, allocated in FY01, and may continue to make yearly awards without establishing or achieving more specific procurement goals.

TEST & EVALUATION ASSESSMENT

Throughout Phase I and Phase II testing, the Wolverine bridge and launcher met or exceeded requirements. The bridge launching system continued to function when subjected to the blast and fragments of near-miss artillery rounds. The system completed its bridge-launching mission, and the

deployed bridge proved capable of supporting a crossing of Military Load Class 70 vehicles per the requirement. The significance of vulnerabilities observed in initial Phase III tests were consistent with expectations, but would require further assessment to support an overall system evaluation.

CONCLUSIONS, RECOMMENDATIONS AND LESSONS LEARNED

During the early planning stages of LFT&E, the program manager and the prime contractor recognized areas of potential weakness in the Wolverine system. Specific areas of concern included exposed hydraulic lines and cylinders, control sensors, and critical components located behind minimal armor protection. The contractor embarked on a program to resolve these areas of potential weakness prior to LFT&E. The fixes were simulated for Phase II and were in production prior to Phase III. If the continuing production of Wolverine warrants completion of the Live Fire vulnerability evaluation, the robustness of these fixes should be assessed.

